

ABSTRACT

The invention comprises lipid derivatives that rapidly degrade in the pH range from 4.0 to 7.0 and lipidic delivery systems that contain them. These lipid derivatives can be used to modify the delivery properties of the lipidic delivery systems to enable prolonged circulation times or more rapid drug unloading in the target tissue. The lipid derivatives are amphipathic compounds comprising a hydrophilic head group joined to a hydrophobic group by an acid-labile ortho ester linkage. The delivery systems of the invention exhibit degradation of less than 10% within 3 hours at a pH of 7.4 and degradation greater than 50% within 60 min at a pH of 5.0.